

## REMARKS

### **A. Status of the Claims**

Claims 1-18 were examined. Claims 1, 5-8, and 14 are amended. Claims 2-4 and 9 are canceled. Thus, upon entry of these amendments, claims 1, 5-8, and 10-18 will be pending. A marked-up copy of the amended claims is provided in Exhibit 1 in compliance with 37 C.F.R. § 1.121. A clean, unofficial copy of the claims after entry of the requested amendments is provided in Exhibit 2.

### **B. Previously-Filed Information Disclosure Statement That Was Not Considered**

An Information Disclosure Statement (IDS) and Form PTO-1449 were filed on October 18, 2002, prior to mailing of the final Office Action on October 21, 2002. The requisite fee under 37 C.F.R. 1.97 was paid. Copies of (a) the IDS, (b) the Form 1449, (c) the check, and (d) the date-stamped, self-addressed postcard pertaining to these items, are provided at Appendix C.

The Office has an obligation to consider the references submitted in this IDS and 1449. 37 C.F.R. § 1.97(c)(2). Applicant therefore requests that the Office fulfill its obligation to consider the submitted references prior to issuing any further Action.

### **C. Claim 14 Has Adequate Written Description Support**

The Office rejects claims 9 and 14 under 35 U.S.C. § 112, first paragraph, as lacking written description support in the specification. The Office states, “[t]he specification had not originally presented a roofing shingle comprising 40% polymer and 60% filler. Nor, had the specification originally presented a roofing shingle comprising 40% polyethylene and 60% filler.” Final Office Action at page 2.

Applicant maintains that examined claims 9 and 14 possess adequate written description support, and reserves the right to prosecute such claims in a continuing application. Applicant

amended claim 14, however, to expedite prosecution. (Claim 9 has been canceled for other reasons). Claim 14 now recites a shingle comprising 40% polyethylene and 60% crushed limestone. This composition is described on page 4 of the specification, at lines 11-12. Amended claim 14 therefore possesses adequate written description support.

**D. Claim 1 and Its Dependent Claims Are Patentable over Bieser**

The Office rejects claims 1-6, 9, and 14 as being anticipated by U.S. Patent No. 6,214,924 to Bieser et al. (Bieser). Claims 1, 5, 6, and 14 have been amended as set forth above. These amendments were made not for the purpose of overcoming this rejection because the claims in their examined form were patentable over Bieser. Instead, these claims were amended to overcome references in the October 18, 2002 IDS and to generally expedite allowance. Claims 2-4 and 9 have been canceled. Amended claim 1 and its dependent claims are patentable over Bieser.

In amended form, claim 1 recites a composite roofing shingle that comprises a mixture of about 36 to 64% polyethylene and about 36 to 64% inorganic filler. The only portions of Bieser cited by the PTO in support of its assertion that "Bieser et al. discloses a tile formed of a composition mixture of about 36 to 64% polyethylene" are column 8, lines 8-45 and column 11, lines 50-52. The first portion of Bieser – column 8, lines 8-45 – pertains to fillers. The second portion – column 11, lines 50-52 – pertains to "Comparative Example 1" and a composition that includes 85% filler and 15% of another material (i.e., "Polymer A"). The Office apparently relies on Bieser's references to a "polyethylene composition" as teaching or suggesting the claimed polyethylene. Bieser states, however, that the "polyethylene composition" that is disclosed is one that comprises a certain percentage of "at least one homogeneous ethylene/ $\alpha$ -

olefin interpolymer”, a certain percentage of “at least one filler”, and a certain percentage of “at least one functionalized polyethylene.” *See, e.g.*, col. 2, lines 23-40.

Bieser’s fillers are not the claimed polyethylene. Bieser’s “homogeneous ethylene/ $\alpha$ -olefin interpolymer” does not qualify as the claimed polyethylene for the reasons explained in subsection 1 below. Bieser’s “functionalized polyethylene” – regardless of whether it qualifies as the claimed polyethylene – is not disclosed or suggested for use in the claimed range of about 36 to 64% by weight (see subsection 2 below). Therefore, it fails to meet this limitation of claim 1.

**1. Bieser’s homogeneous ethylene/ $\alpha$ -olefin interpolymer is not the claimed polyethylene**

Throughout the specification, Bieser makes clear that the homogeneous ethylene/ $\alpha$ -olefin interpolymer of his “polyethylene composition” is not the claimed polyethylene. For example, Bieser provides a specific definition for the term “interpolymer”:

The term interpolymer is used herein to indicate a copolymer, or a terpolymer, or the like. That is, at least one other comonomer is polymerized with ethylene to make the interpolymer.

Col. 7, lines 53-56. A group of polymers that has been explicitly restricted to copolymers does not disclose or suggest the claimed polyethylene. Declaration of Stan P. Frankoski (Frankoski Declaration) at ¶ 12 (attached as Exhibit 3).

Bieser also states that “[t]he homogeneous ethylene/ $\alpha$ -olefin interpolymer may be a homogeneously branched linear polymer or a substantially linear polymer, with substantially linear polymers being preferred.” Col. 4, lines 16-19. In the next paragraph, Bieser states:

“Substantially linear” ethylene/ $\alpha$ -olefin interpolymers are not “linear” polymer [sic] in the traditional sense of the term, as is used to describe linear low density polyethylene (Ziegler polymerized linear low density polyethylene (LLDPE)). Nor is the term “substantially linear” interpolymers used to describe highly branched polymers, such as low density polyethylene (LDPE).”

Col. 4, lines 31-37. These statements show that Bieser's homogeneous ethylene/ $\alpha$ -olefin interpolymer does not include polyethylene. Frankoski Declaration at ¶¶ 13-15.

**2. Bieser's functionalized polyethylene is not disclosed or suggested in the claimed range**

Applicant need not address whether Bieser's "functionalized polyethylene," which forms a part of the generic "polyethylene composition" of Bieser, qualifies as the claimed polyethylene because Bieser does not teach or suggest the use of that ingredient in the claimed range of about 36 to 64%. The only disclosure of Bieser's "functionalized polyethylene" is of such an ingredient in the range of "from about 0.1 weight percent to less than about 10 weight percent." *See, e.g.*, Abstract and col. 2, lines 37-40. Other ranges **within** about 0.1 to less than about 10 weight percent are disclosed, col. 10, lines 3-11, but no values outside of this range – and certainly nothing even approaching the claimed range – are otherwise disclosed or suggested.<sup>1</sup> For this reason, Bieser's functionalized polyethylene is not disclosed in the claimed range of Applicant's polyethylene.

\* \* \*

For these reasons, Bieser does not teach or suggest the claimed range of "about 36 to 64% polyethylene." As a result, claim 1, and all of its dependent claims, are patentable over Bieser.

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<sup>1</sup> Bieser discloses ranges of the amount "of the functional group" present in the functionalized polyethylene in column 9 at lines 22-42. This disclosure, however, concerns only the amount of the functional group present in the functionalized polyethylene, and not amounts of the functionalized polyethylene itself.

**E. Claim 1 Is Patentable over the Wells Patents**

**1. USPN 5,711,126**

The Office rejects claims 1-5 and 7-13 as being anticipated by Wells (i.e., the '126 patent). The Office states: "Wells discloses a tile formed of a composition mixture of about 36 to 64% polyethylene and about 36 to 64% crushed limestone, col. 7, lines 35-60 and claim 13 which would include either 40% polymer and 60% filler or 40% polyethylene and 60% filler. Filers may include slate and shale, col. 3, lines 34-36 with appearances of wood shake and slate tile, col. 4, lines 65-67." Final Office Action, page 3. Amended claim 1 and its dependents are patentable over the '126 patent and the rejection should be withdrawn.

The '126 patent fails to disclose or suggest polyethylene as recited in amended claim 1. The '126 patent discloses "polyester, polyethylene terephthalate (PET), polycarbonate, and polypropylene resins" as examples "of materials that are resinous and suitable for use with the invention." Col. 7, lines 35-42. Neither polyester, PET, polycarbonate nor polypropylene teaches or suggests the claimed polyethylene. Frankoski Declaration at ¶ 17. The disclosed substances are simply not the same as or suggestive of polyethylene. *Id.* at ¶ 18.

**2. USPN 6,112,492**

The Office rejects claims 1-5 and 7-13 as being anticipated by Wells et al. (i.e., the '492 patent). The Office states: "Wells et al. discloses a tile formed of a composition mixture of about 36 to 64% polyethylene and about 36 to 64% crushed limestone, col. 6, line 38 to col. 7, line 10 which would include either 40% polymer and 60% filler or 40% polyethylene and 60% filler. The tile being between about 3-12 inches wide[,] col. 6, lines 27-29. Fillers may include slate and shale, col. 7, lines 4-5 with appearances of wood shake and slate tile, col. 4, lines 3-5."

Final Office Action, page 3. Amended claim 1 and its dependents are patentable over the '492 patent and the rejection should be withdrawn.

The '492 patent fails to disclose or suggest polyethylene as recited in amended claim 1. The '492 patent, like the '126 patent, discloses "polyester, polyethyleneterephthalate (PET), polycarbonate, and polypropylene resins" as examples "of materials that are resinous and suitable for use with the invention." Col. 6, lines 54-56. Neither polyester, PET, polycarbonate nor polypropylene teaches or suggests the claimed polyethylene. Frankoski Declaration at ¶ 21. The disclosed substances are simply not the same as or suggestive of polyethylene. *Id.*

**F. Claim 6 and 14-18 Are Patentable over Either Wells Patent in View of Thompson**

The Office rejects claims 6 and 14-18 as being obvious over either the '126 patent or the '492 patent in view of USPN 6,253,512 to Thompson et al. (Thompson). Claims 6 and 14-18 each depend directly or indirectly from claim 1. They, therefore, include polyethylene as a limitation. The Wells patents fail to teach or suggest polyethylene as explained above. Thompson does not cure this deficiency of the Wells patents because Thompson also fails to teach or suggest polyethylene. Thus, the asserted combination does not render any of claims 6 and 14-18 obvious, and the rejection should be withdrawn.

**G. Petition for Extension of Time**

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions for an extension of time of three months up to and including April 21, 2003 in which to respond to the Final Office Action dated October 21, 2002. Pursuant to 37 C.F.R. § 1.16 and 1.17, a check in the amount of \$1,680 is enclosed, which includes the RCE fee and the process fee for a three-month extension of time. If the check is inadvertently omitted, or should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, or should an overpayment be

included, the Office is authorized to deduct or credit the appropriate fees from or to Fulbright & Jaworski Deposit Account No.: 50-1212/EPOC:009US/MTG.

**H. Conclusion**

Applicant respectfully submits that claims 1, 5-8, and 10-18 are in condition for allowance. Should Examiner Safavi have any questions, comments, or suggestions relating to this application, he is invited to contact the undersigned attorney at (512) 536-3031.

Respectfully submitted,



Mark T. Garrett  
Reg. No. 44,699  
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.  
600 Congress Avenue, Suite 2400  
Austin, Texas 78701  
(512) 536-3031  
Date: April 21, 2003